



# HYGIENETECH

Hygiene Technologies International, Inc.

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February 9, 2014

California State Board of Equalization  
450 N Street  
Sacramento, California 94279

Document No. 21401001.1

Attention: David Gau

Regarding: Limited Fungal Growth Exposure Assessment Surveys  
January 2014 Random Sampling

Dear Mr. Gau:

On January 8, 17, 24, and 29, 2014, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted limited fungal growth exposure assessment surveys involving 22 randomly selected areas located within the California State Board of Equalization (BOE) building. The findings of the surveys, along with the analytical data, conclusions, and recommendations when applicable, appear below.

On the survey dates, air samples were collected for total (viable and nonviable) fungi analyses using a Zefon brand Bio-Pump Plus™ equipped with Air-O-Cell™ cassettes. All such samples were subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program. The airborne fungi assessment analytical data with supporting and background information appear in the enclosed table.

As presented in Table 21401001-1, the airborne spore count data recorded showed fungal spore types outdoors such as *Alternaria*, ascospores, basidiospores, *Chaetomium*, *Cladosporium*, colorless spores typical of *Penicillium/Aspergillus* species, *Epicoccum*, other brown, other colorless, *Nigrospora*, rusts, smuts, and/or *Stachybotrys*. In the indoor areas tested, the data showed that airborne fungal spores were either not detected at or above the laboratory detection limit indicated or were detected at low airborne concentrations. The fungal spore types found indoor included *Alternaria*, basidiospores, *Cladosporium*, *Curvularia*, *Epicoccum*, *Oidium*, other brown, *Nigrospora*, rusts, and/or smuts. The distribution of fungal spore types detected in the surveyed areas was consistent with those found outdoors, and the overall data within the tested areas were well below the overall outdoor data recorded. These data are considered unremarkable and are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.

Be advised that the data provided in this report only represent limited fungal growth and exposure potentials that existed at the time these surveys were performed and at the precise sample locations

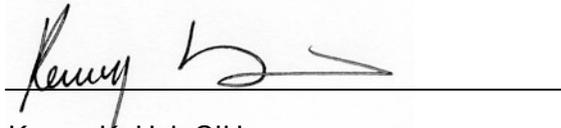


indicated. Note that fungal growth and exposure potentials may change due to changes in environmental conditions (such as those caused by water intrusion), use of mechanical systems, or other factors. Also be advised that additional fungal growth may exist at one or more locations in the structure that were not specifically assessed during the surveys.

If you have any comments or questions regarding the information contained in this correspondence, please feel free to contact our offices directly at (310) 370-8370.

Sincerely,

**HYGIENE TECHNOLOGIES INTERNATIONAL, INC.**

A handwritten signature in black ink, appearing to read "Kenny K. Hsi", is written over a horizontal line.

Kenny K. Hsi, CIH  
Technical Director

# HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

# APPENDIX A



CLIENT: California State Board of Equalization  
450 N Street  
Sacramento, California 94279

TABLE 21401001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
JANUARY 8, 17, 24, AND 29, 2013

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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21401001-1 TM01OUT	21401001-1 TM02	21401001-1 TM03	21401001-1 TM04
<b>SAMPLING LOCATION/ACTIVITIES</b>	Outdoors; about 15 feet east of building; approximately five feet above ground/Normal outdoor activities	2 <sup>nd</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities	5 <sup>th</sup> Floor; southeastern corridor area; about two feet north of Room 515 entry door; approximately five feet above floor/Normal office activities	8 <sup>th</sup> Floor; Column K20 area; about seven feet north of Column K20; approximately five feet above floor/Normal office activities
<b>DATE</b>	01/08/14	01/08/14	01/08/14	01/08/14
<b>START/STOP</b>	15:45:00/15:50:00	15:53:00/15:58:00	16:02:00/16:07:00	16:10:00/16:15:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria	40			
Ascospores				
Basidiospores	160			
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	1,600		160	53
Curvularia				
Epicoccum				
Fusarium				
Nigrospora	13			
Oidium				
Other brown	13			
Other colorless				
Penicillium/Aspergillus types	1,000			
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)	40			
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	67	<13	13	<13
Background debris*	2+	2+	2+	2+
<b>TOTAL**</b>	2,900	<13	160	53

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

\*\*Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

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450 N STREET  
SACRAMENTO, CALIFORNIA  
JANUARY 8, 17, 24, AND 29, 2013

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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21401001-1 TM05	21401001-1 TM06	21401001-1 TM07	21401001-1 TM08OUT
<b>SAMPLING LOCATION/ACTIVITIES</b>	10 <sup>th</sup> Floor; Column N18 area; about five feet south of Cubicle 102; approximately five feet above floor/Normal office activities	16 <sup>th</sup> Floor; Break Room 1616; about center; approximately five feet above floor/Normal office activities	17 <sup>th</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities	Outdoors; about 15 feet west of building; approximately five feet above ground/Normal outdoor activities
<b>DATE</b>	01/08/14	01/08/14	01/08/14	01/17/14
<b>START/STOP</b>	16:19:00/16:24:00	16:35:00/16:40:00	16:43:00/16:48:00	09:56:00/10:01:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Ascospores				53
Basidiospores			53	590
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium		53	53	4,100
Curvularia				
Epicoccum				13
Fusarium				
Nigrospora			13	
Oidium				
Other colorless				40
Penicillium/Aspergillus types				910
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				53
Stachybotrys				
Stemphylium				
Torula				
Trichocladium				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	13	13	53
Background debris*	2+	2+	2+	2+
<b>TOTAL **</b>	<13	53	120	5,800

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

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SACRAMENTO, CALIFORNIA  
JANUARY 8, 17, 24, AND 29, 2013

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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21401001-1 TM09	21401001-1 TM10	21401001-1 TM11	21401001-1 TM12
<b>SAMPLING LOCATION/ACTIVITIES</b>	3 <sup>rd</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities	7 <sup>th</sup> Floor; about five feet south of Freight Elevator; approximately five feet above floor/Normal office activities	14 <sup>th</sup> Floor; Conference Room 1406; about five feet south of entry door; approximately five feet above floor/Normal office activities	18 <sup>th</sup> Floor; Mail Room 18B; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	01/17/14	01/17/14	01/17/14	01/17/14
<b>START/STOP</b>	10:09:00/10:14:00	10:17:00/10:22:00	10:29:00/10:34:00	10:42:00/10:47:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores				
Basidiospores				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	270			53
Curvularia	13			
Epicoccum				
Fusarium				
Nigrospora	13			
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts	13			
Smuts (Periconia, Myxomycetes)	13			
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	<13	13	<13	<13
Background debris*	2+	1+	1+	1+
<b>TOTAL**</b>	320	<13	<13	53

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JANUARY 8, 17, 24, AND 29, 2013

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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21401001-1 TM13	21401001-1 TM14OUT	21401001-1 TM15	21401001-1 TM16
<b>SAMPLING LOCATION/ACTIVITIES</b>	21 <sup>st</sup> Floor; southern corridor at western end; approximately five feet above floor/Normal office activities	Outdoors; about 10 feet south of building; approximately five feet above ground/Normal outdoor activities	4 <sup>th</sup> Floor, Conference Room 408; approximately five feet above floor/Normal office activities	9 <sup>th</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	01/17/14	01/24/14	01/24/14	01/24/14
<b>START/STOP</b>	10:51:00/10:56:00	14:14:00/14:19:00	14:25:00/14:30:00	14:34:00/14:39:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria		40		13
Ascospores		110		
Basidiospores		370		
Bipolaris/Drechslera group				
Botrytis				
Chaetomium		13		
Cladosporium	53	3,100	320	110
Curvularia			13	
Epicoccum				13
Myrothecium				
Nigrospora		13		
Oidium			13	13
Other colorless				
Penicillium/Aspergillus types		210		
Pithomyces				
Rusts		13		
Smuts (Periconia, Myxomycetes)	13	80	13	13
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	13	160	<13	13
Background debris*	1+	3+	2+	2+
<b>TOTAL**</b>	67	4,000	360	160

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21401001-1 TM17	21401001-1 TM18	21401001-1 TM19	21401001-1 TM20OUT
<b>SAMPLING LOCATION/ACTIVITIES</b>	11 <sup>th</sup> Floor; Low-Rise Elevator Lobby; about center; approximately five feet above floor/Normal office activities	20 <sup>th</sup> Floor; Column K21 area; about two feet east of Column K21; approximately five feet above floor/Normal office activities	24 <sup>th</sup> Floor; Room 2423; about two feet west of entry door; approximately five feet above floor/Normal office activities	Outdoors; about 15 feet east of building; approximately five feet above ground/Normal outdoor activities
<b>DATE</b>	01/24/14	01/24/14	01/24/14	01/29/14
<b>START/STOP</b>	14:41:00/14:46:00	14:49:00/14:54:00	14:57:00/15:02:00	09:08:00/09:13:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Ascospores				210
Basidiospores				270
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium			110	480
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium	13			80
Other brown				
Penicillium/Aspergillus types				110
Pithomyces				
Rusts				13
Smuts (Periconia, Myxomycetes)	40			
Stachybotrys				13
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	<13	13	27
Background debris*	2+	1+	1+	2+
<b>TOTAL**</b>	53	<13	110	1,200

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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21401001-1 TM21	21401001-1 TM22	21401001-1 TM23	21401001-1 TM24
<b>SAMPLING LOCATION/ACTIVITIES</b>	1 <sup>st</sup> Floor; Print Room 135; about center; approximately five feet above floor/Normal office activities	6 <sup>th</sup> Floor; Conference Room 619; entry area; approximately five feet above floor/Normal office activities	15 <sup>th</sup> Floor; Column K22 area; about 15 feet northeast of Column K22; approximately feet above floor/Normal office activities	19 <sup>th</sup> Floor; Column M23 area; Cubicle at Column M23; entry area; approximately five feet above floor/Normal office activities
<b>DATE</b>	01/29/14	01/29/14	01/29/14	01/29/14
<b>START/STOP</b>	09:16:00/09:21:00	09:25:00/09:30:00	09:33:00/09:38:00	09:43:00/09:48:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				13
Ascospores				
Basidiospores				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium			13	53
Curvularia				
Epicoccum				13
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	13	<13	<13	<13
Background debris*	1+	2+	2+	2+
<b>TOTAL**</b>	<13	<13	13	80

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

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450 N STREET  
SACRAMENTO, CALIFORNIA  
JANUARY 8, 17, 24, AND 29, 2013

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SAMPLE NUMBER	21401001-1 TM25	21401001-1 TM26		
SAMPLING LOCATION/ACTIVITIES	22 <sup>nd</sup> Floor; Room 2211; entry area; approximately five feet above floor/Normal office activities	23 <sup>rd</sup> Floor; northwest stairwell area; approximately five feet above floor/Normal office activities	This column intentionally left blank	This column intentionally left blank
DATE	01/29/14	01/29/14		
START/STOP	09:51:00/09:56:00	09:58:00/10:03:00		
SAMPLE TIME	5 minutes	5 minutes		
Alternaria				
Ascospores				
Basidiospores				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53			
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown	13			
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	<13	<13		
Background debris*	2+	2+		
<b>TOTAL**</b>	67	<13		

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

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Report for:

**Mr. Kenny Hsi, Mr. Larry Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21401001-1  
EML ID: 1157824

Approved by:

Technical Manager  
Melissa Tracey

Dates of Analysis:  
Spore trap analysis: 01-10-2014

Service SOPs: Spore trap analysis (1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-08-2014  
 Date of Receipt: 01-09-2014  
 Date of Report: 01-10-2014

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-1 TM01 OUT		21401001-1 TM02		21401001-1 TM03		21401001-1 TM04	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	5234918-1		5234919-1		5234920-1		5234921-1	
Analysis Date:	01/10/2014		01/10/2014		01/10/2014		01/10/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	3	40						
Ascospores								
Basidiospores	3	160						
Chaetomium								
Cladosporium	30	1,600			3	160	1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora	1	13						
Other brown	1	13						
Other colorless								
Penicillium/Aspergillus types†	19	1,000						
Pithomyces								
Rusts								
Smuts, Periconia, Myxomycetes	3	40						
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		2+		2+		2+	
Hyphal fragments/m3	67		< 13		13		< 13	
Pollen/m3	110		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>2,900</b>		<b>&lt; 13</b>		<b>160</b>		<b>53</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.  
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.  
 ††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.  
 ‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".  
 § Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
Re: 21401001-1Date of Sampling: 01-08-2014  
Date of Receipt: 01-09-2014  
Date of Report: 01-10-2014**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-1 TM05		21401001-1 TM06		21401001-1 TM07	
Comments (see below)	None		None		None	
Lab ID-Version‡:	5234922-1		5234923-1		5234924-1	
Analysis Date:	01/10/2014		01/10/2014		01/10/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Ascospores						
Basidiospores					1	53
Botrytis						
Chaetomium						
Cladosporium			1	53	1	53
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown					1	13
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		2+	
Hyphal fragments/m3	< 13		13		13	
Pollen/m3	< 13		< 13		< 13	
Skin cells (1-4+)	1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>&lt; 13</b>		<b>53</b>		<b>120</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

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Date of Receipt: 01-09-2014  
Date of Report: 01-10-2014

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21401001-1 TM01 OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: January in California† (n‡=15005)						Typical Outdoor Data for: The entire year in California† (n‡=188141)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	40	13	13	22	47	67	36	13	13	27	67	110	54
Bipolaris/Drechslera group	-	7	13	13	27	27	7	7	13	13	27	40	12
Chaetomium	-	7	13	13	27	40	10	8	13	13	27	47	19
Cladosporium	1,600	110	160	480	1,200	2,000	95	110	210	630	1,700	2,800	97
Curvularia	-	7	13	13	13	27	3	7	13	13	27	53	6
Nigrospora	13	7	13	13	13	27	5	7	13	13	27	53	8
Other brown	13	13	13	13	33	53	30	13	13	13	40	53	34
Penicillium/Aspergillus types	1,000	53	110	230	620	1,000	85	53	100	210	590	1,000	85
Stachybotrys	-	10	13	13	40	93	3	7	13	13	33	67	4
Torula	-	10	13	13	40	53	5	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	-	27	53	160	560	1,100	69	25	53	110	360	690	71
Basidiospores	160	53	110	480	2,300	4,800	94	53	80	270	1,000	2,400	93
Rusts	-	8	13	13	40	67	14	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	40	13	13	27	67	110	58	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	<b>2,900</b>												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
Re: 21401001-1

Date of Sampling: 01-08-2014  
Date of Receipt: 01-09-2014  
Date of Report: 01-10-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Outdoor Summary: 21401001-1 TM01 OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				40	7 - 33 - 590	45
Ascospores				< 13	13 - 210 - 5,700	77
Basidiospores				160	17 - 450 - 24,000	92
Cladosporium				1,600	27 - 480 - 10,000	90
Nigrospora				13	7 - 13 - 240	16
Other brown				13	7 - 13 - 130	24
Penicillium/Aspergillus types				1,000	13 - 170 - 2,700	68
Smuts, Periconia, Myxomycetes				40	7 - 53 - 930	64
<b>Total</b>				2,900		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

**Indoor Samples**

**Location: 21401001-1 TM02**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 5 Result: 4.8571 Critical value: 11.0705 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
<b>None Detected</b>		<100	1K	10K
				>100K
				< 13

**Location: 21401001-1 TM03**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 5%	dF: 5 Result: 4.8571 Critical value: 11.0705 Inside Similar: Yes	Result: 0.2500	dF: 7 Result: 0.7054 Critical value: 0.6786 Outside Similar: Yes	Score: 105 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
Cladosporium				160
<b>Total</b>				160

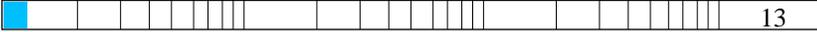


Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-08-2014  
 Date of Receipt: 01-09-2014  
 Date of Report: 01-10-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Location:** 21401001-1 TM07

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 4%	dF: 5 Result: 4.8571 Critical value: 11.0705 Inside Similar: Yes	Result: 0.6000	dF: 7 Result: 0.4643 Critical value: 0.6786 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
Cladosporium					53
Other brown					13
<b>Total</b>					120

\* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\* An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

\*\*\* The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\*\*\* MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&K reserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-08-2014  
 Date of Receipt: 01-09-2014  
 Date of Report: 01-10-2014

**MoldSCORE™: Spore Trap Report**

**Outdoor Sample:** 21401001-1 TM01 OUT

Fungi Identified	Outdoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					3	40
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					30	1,600
Curvularia					ND	< 13
Nigrospora					1	13
Other brown					1	13
Penicillium/Aspergillus types†					19	1,000
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores					ND	< 13
Basidiospores					3	160
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes					3	40
<b>Total</b>						<b>2,880</b>

**Location:** 21401001-1 TM02

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores					ND	< 13
Basidiospores					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes					ND	< 13
<b>Total</b>						<b>N/A</b>

MoldSCORE‡			
100	200	300	Score
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
<b>Final MoldSCORE</b>			<b>100</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-08-2014  
 Date of Receipt: 01-09-2014  
 Date of Report: 01-10-2014

**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM03

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium	█				3	160	█			105
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>160</b>				
							<b>Final MoldSCORE</b>			<b>105</b>

**Location:** 21401001-1 TM04

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium	█				1	53	█			102
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>53</b>				
							<b>Final MoldSCORE</b>			<b>102</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-08-2014  
 Date of Receipt: 01-09-2014  
 Date of Report: 01-10-2014

**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM05

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>N/A</b>				<b>Final MoldSCORE 100</b>

**Location:** 21401001-1 TM06

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					1	53				102
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>53</b>				<b>Final MoldSCORE 102</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-08-2014  
 Date of Receipt: 01-09-2014  
 Date of Report: 01-10-2014

**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM07

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	100			
Bipolaris/Drechslera group					ND	< 13	100			
Chaetomium					ND	< 13	100			
Cladosporium					1	53	100			
Curvularia					ND	< 13	100			
Nigrospora					ND	< 13	100			
Other brown					1	13	105			
Penicillium/Aspergillus types†					ND	< 13	100			
Stachybotrys					ND	< 13	100			
Torula					ND	< 13	100			
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	100			
Basidiospores					1	53	105			
Rusts					ND	< 13	100			
Smuts, Periconia, Myxomycetes					ND	< 13	100			
<b>Total</b>						<b>120</b>	<b>Final MoldSCORE 105</b>			

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

†The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.



Report for:

**Mr. Larry Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21401001-1  
EML ID: 1161045

Approved by:

Technical Manager  
Melissa Tracey

Dates of Analysis:  
Spore trap analysis: 01-17-2014

Service SOPs: Spore trap analysis (1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21401001-1

Date of Sampling: 01-17-2014  
Date of Receipt: 01-17-2014  
Date of Report: 01-20-2014

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-TM08 OUT		21401001-TM09		21401001-TM10	
Comments (see below)	None		None		None	
Lab ID-Version‡:	5252059-1		5252060-1		5252061-1	
Analysis Date:	01/17/2014		01/17/2014		01/17/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	1	53				
Basidiospores	11	590				
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Cladosporium	77	4,100	5	270		
Curvularia			1	13		
Epicoccum	1	13				
Fusarium						
Myrothecium						
Nigrospora			1	13		
Other colorless	3	40				
Penicillium/Aspergillus types†	17	910				
Pithomyces						
Rusts			1	13		
Smuts, Periconia, Myxomycetes	4	53	1	13		
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		1+	
Hyphal fragments/m3	53		< 13		13	
Pollen/m3	93		< 13		< 13	
Skin cells (1-4+)	< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>5,800</b>		<b>320</b>		<b>&lt; 13</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-17-2014  
 Date of Receipt: 01-17-2014  
 Date of Report: 01-20-2014

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-TM11		21401001-TM12		21401001-TM13	
Comments (see below)	None		None		None	
Lab ID-Version‡:	5252062-1		5252063-1		5252064-1	
Analysis Date:	01/17/2014		01/17/2014		01/17/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores						
Basidiospores						
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Cladosporium			1	53	1	53
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes					1	13
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		1+		1+	
Hyphal fragments/m3	< 13		< 13		13	
Pollen/m3	< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>&lt; 13</b>		<b>53</b>		<b>67</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.  
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.  
 ††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.  
 ‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".  
 § Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21401001-1

Date of Sampling: 01-17-2014  
Date of Receipt: 01-17-2014  
Date of Report: 01-20-2014

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21401001-TM08 OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: January in California† (n‡=15005)						Typical Outdoor Data for: The entire year in California† (n‡=199769)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	-	13	13	22	47	67	36	13	13	27	67	110	54
Bipolaris/Drechslera group	-	7	13	13	27	27	7	7	13	13	27	40	12
Chaetomium	-	7	13	13	27	40	10	8	13	13	27	47	19
Cladosporium	4,100	110	160	480	1,200	2,000	95	110	210	610	1,600	2,800	97
Curvularia	-	7	13	13	13	27	3	7	13	13	27	53	6
Epicoccum	13	7	13	13	27	53	13	8	13	13	33	53	19
Nigrospora	-	7	13	13	13	27	5	7	13	13	27	53	8
Other colorless	40	13	13	13	27	53	5	10	13	13	27	53	5
Penicillium/Aspergillus types	910	53	110	230	620	1,000	85	53	100	210	590	1,000	84
Stachybotrys	-	10	13	13	40	93	3	7	13	13	33	67	4
Torula	-	10	13	13	40	53	5	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	53	27	53	160	560	1,100	69	25	53	110	360	690	71
Basidiospores	590	53	110	480	2,300	4,800	94	53	80	270	990	2,300	93
Rusts	-	8	13	13	40	67	14	13	13	13	53	80	26
Smuts, Periconia, Myxomycetes	53	13	13	27	67	110	58	13	13	40	110	210	68
<b>§ TOTAL SPORES/m3</b>	<b>5,800</b>												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-17-2014  
 Date of Receipt: 01-17-2014  
 Date of Report: 01-20-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Outdoor Summary: 21401001-TM08 OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Ascospores				53	13 - 210 - 5,700	76
Basidiospores				590	15 - 450 - 24,000	92
Cladosporium				4,100	27 - 480 - 10,000	90
Epicoccum				13	7 - 20 - 330	25
Other colorless				40	7 - 27 - 670	4
Penicillium/Aspergillus types				910	13 - 170 - 2,700	68
Smuts, Periconia, Myxomycetes				53	7 - 53 - 930	64
<b>Total</b>				<b>5,800</b>		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

**Indoor Samples**

**Location: 21401001-TM09**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 5%	dF: 4 Result: 10.1200 Critical value: 9.4877 Inside Similar: No	Result: 0.3333	dF: 10 Result: -0.0303 Critical value: 0.5515 Outside Similar: No	Score: 112 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Cladosporium				270
	Curvularia				13
	Nigrospora				13
	Rusts				13
	Smuts, Periconia, Myxomycetes				13
	<b>Total</b>				<b>320</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-17-2014  
 Date of Receipt: 01-17-2014  
 Date of Report: 01-20-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Location: 21401001-TM10**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 4 Result: 10.1200 Critical value: 9.4877 Inside Similar: No	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
<b>None Detected</b>		< 13		

**Location: 21401001-TM11**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 4 Result: 10.1200 Critical value: 9.4877 Inside Similar: No	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
<b>None Detected</b>		< 13		

**Location: 21401001-TM12**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 4 Result: 10.1200 Critical value: 9.4877 Inside Similar: No	Result: 0.2500	dF: 7 Result: 0.6964 Critical value: 0.6786 Outside Similar: Yes	Score: 101 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
Cladosporium		53		
<b>Total</b>		<b>53</b>		

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-17-2014  
 Date of Receipt: 01-17-2014  
 Date of Report: 01-20-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Location:** 21401001-TM13

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 4 Result: 10.1200 Critical value: 9.4877 Inside Similar: No	Result: 0.4444	dF: 7 Result: 0.5625 Critical value: 0.6786 Outside Similar: No	Score: 102 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Cladosporium					53
Smuts, Periconia, Myxomycetes					13
<b>Total</b>					67

\* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\* An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

\*\*\* The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\*\*\* MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&K reserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-17-2014  
 Date of Receipt: 01-17-2014  
 Date of Report: 01-20-2014

**MoldSCORE™: Spore Trap Report**

**Outdoor Sample:** 21401001-TM08 OUT

Fungi Identified	Outdoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium	█	█	█	█	77	4,100
Curvularia					ND	< 13
Epicoccum	█				1	13
Nigrospora					ND	< 13
Other colorless	█				3	40
Penicillium/Aspergillus types†	█	█	█	█	17	910
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores	█				1	53
Basidiospores	█	█	█	█	11	590
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes	█				4	53
<b>Total</b>						<b>5,760</b>

**Location:** 21401001-TM09

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium	█	█			5	270
Curvularia	█				1	13
Nigrospora	█				1	13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores					ND	< 13
Basidiospores					ND	< 13
Rusts	█				1	13
Smuts, Periconia, Myxomycetes	█				1	13
<b>Total</b>						<b>320</b>

MoldSCORE‡			
100	200	300	Score
█			100
█			100
█			100
█			103
█			105
█			105
█			100
█			100
█			100
█			100
█			100
█			100
█			100
█			100
█			105
█			102
<b>Final MoldSCORE</b>			<b>112</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-17-2014  
 Date of Receipt: 01-17-2014  
 Date of Report: 01-20-2014

**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-TM10

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>N/A</b>				<b>Final MoldSCORE 100</b>

**Location:** 21401001-TM11

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>N/A</b>				<b>Final MoldSCORE 100</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-17-2014  
 Date of Receipt: 01-17-2014  
 Date of Report: 01-20-2014

**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-TM12

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					1	53	█			101
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>53</b>				
							<b>Final MoldSCORE</b>			<b>101</b>

**Location:** 21401001-TM13

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					1	53	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					1	13	█			102
<b>Total</b>						<b>67</b>				
							<b>Final MoldSCORE</b>			<b>102</b>

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21401001-1

Date of Sampling: 01-17-2014  
Date of Receipt: 01-17-2014  
Date of Report: 01-20-2014

### **MoldSCORE™: Spore Trap Report**

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

†The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.



Report for:

**Mr. Larry Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21401001-1  
EML ID: 1163853

Approved by:

Technical Manager  
Melissa Tracey

Dates of Analysis:  
Spore trap analysis: 01-27-2014

Service SOPs: Spore trap analysis (1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21401001-1Date of Sampling: 01-24-2014  
Date of Receipt: 01-24-2014  
Date of Report: 01-27-2014**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-1 TM14OUT		21401001-1 TM15		21401001-1 TM16	
Comments (see below)	None		None		None	
Lab ID-Version‡:	5265349-1		5265350-1		5265351-1	
Analysis Date:	01/27/2014		01/27/2014		01/27/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	3	40			1	13
Ascospores	2	110				
Basidiospores	7	370				
Chaetomium	1	13				
Cladosporium	59	3,100	6	320	2	110
Curvularia			1	13		
Epicoccum					1	13
Fusarium						
Myrothecium						
Nigrospora	1	13				
Oidium			1	13	1	13
Other colorless						
Penicillium/Aspergillus types†	4	210				
Pithomyces						
Rusts	1	13				
Smuts, Periconia, Myxomycetes	6	80	1	13	1	13
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	3+		2+		2+	
Hyphal fragments/m3	160		< 13		13	
Pollen/m3	130		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>4,000</b>		<b>360</b>		<b>160</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-24-2014  
 Date of Receipt: 01-24-2014  
 Date of Report: 01-27-2014

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-1 TM17		21401001-1 TM18		21401001-1 TM19	
Comments (see below)	None		None		None	
Lab ID-Version‡:	5265352-1		5265353-1		5265354-1	
Analysis Date:	01/27/2014		01/27/2014		01/27/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Ascospores						
Basidiospores						
Chaetomium						
Cladosporium					2	110
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Oidium	1	13				
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes	3	40				
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		1+		1+	
Hyphal fragments/m3	< 13		< 13		13	
Pollen/m3	27		< 13		40	
Skin cells (1-4+)	1+		< 1+		< 1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>53</b>		<b>&lt; 13</b>		<b>110</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21401001-1

Date of Sampling: 01-24-2014  
Date of Receipt: 01-24-2014  
Date of Report: 01-27-2014

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21401001-1 TM14OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: January in California† (n‡=15005)						Typical Outdoor Data for: The entire year in California† (n‡=199769)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	40	13	13	22	47	67	36	13	13	27	67	110	54
Bipolaris/Drechslera group	-	7	13	13	27	27	7	7	13	13	27	40	12
Chaetomium	13	7	13	13	27	40	10	8	13	13	27	47	19
Cladosporium	3,100	110	160	480	1,200	2,000	95	110	210	610	1,600	2,800	97
Curvularia	-	7	13	13	13	27	3	7	13	13	27	53	6
Epicoccum	-	7	13	13	27	53	13	8	13	13	33	53	19
Nigrospora	13	7	13	13	13	27	5	7	13	13	27	53	8
Penicillium/Aspergillus types	210	53	110	230	620	1,000	85	53	100	210	590	1,000	84
Stachybotrys	-	10	13	13	40	93	3	7	13	13	33	67	4
Torula	-	10	13	13	40	53	5	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	110	27	53	160	560	1,100	69	25	53	110	360	690	71
Basidiospores	370	53	110	480	2,300	4,800	94	53	80	270	990	2,300	93
Oidium	-	13	13	13	40	53	9	13	13	13	44	75	19
Rusts	13	8	13	13	40	67	14	13	13	13	53	80	26
Smuts, Periconia, Myxomycetes	80	13	13	27	67	110	58	13	13	40	110	210	68
<b>§ TOTAL SPORES/m3</b>	<b>4,000</b>												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-24-2014  
 Date of Receipt: 01-24-2014  
 Date of Report: 01-27-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Outdoor Summary: 21401001-1 TM14OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				40	7 - 33 - 590	45
Ascospores				110	13 - 210 - 5,700	76
Basidiospores				370	15 - 450 - 24,000	92
Chaetomium				13	7 - 13 - 160	9
Cladosporium				3,100	27 - 480 - 10,000	90
Nigrospora				13	7 - 13 - 240	16
Penicillium/Aspergillus types				210	13 - 170 - 2,700	68
Rusts				13	7 - 20 - 360	20
Smuts, Periconia, Myxomycetes				80	7 - 53 - 930	64
<b>Total</b>				4,000		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

**Indoor Samples**

**Location: 21401001-1 TM15**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 9%	dF: 4 Result: 6.8333 Critical value: 9.4877 Inside Similar: Yes	Result: 0.3077	dF: 11 Result: 0.1023 Critical value: 0.5273 Outside Similar: No	Score: 106 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Cladosporium				320
	Curvularia				13
	Oidium				13
	Smuts, Periconia, Myxomycetes				13
	<b>Total</b>				360

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-24-2014  
 Date of Receipt: 01-24-2014  
 Date of Report: 01-27-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Location: 21401001-1 TM16**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 4%	dF: 4 Result: 6.8333 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4286	dF: 11 Result: 0.0909 Critical value: 0.5273 Outside Similar: No	Score: 111 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria					13
Cladosporium					110
Epicoccum					13
Oidium					13
Smuts, Periconia, Myxomycetes					13
<b>Total</b>					<b>160</b>

**Location: 21401001-1 TM17**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 4 Result: 6.8333 Critical value: 9.4877 Inside Similar: Yes	Result: 0.1818	dF: 10 Result: 0.0545 Critical value: 0.5515 Outside Similar: No	Score: 108 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Oidium					13
Smuts, Periconia, Myxomycetes					40
<b>Total</b>					<b>53</b>

**Location: 21401001-1 TM18**

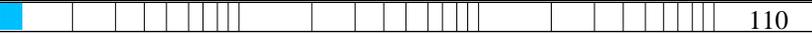
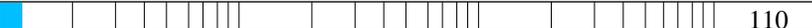
% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 4 Result: 6.8333 Critical value: 9.4877 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
<b>None Detected</b>					< 13

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-24-2014  
 Date of Receipt: 01-24-2014  
 Date of Report: 01-27-2014

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Location:** 21401001-1 TM19

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 4 Result: 6.8333 Critical value: 9.4877 Inside Similar: Yes	Result: 0.2000	dF: 9 Result: 0.6667 Critical value: 0.5833 Outside Similar: Yes	Score: 102 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Cladosporium					110
<b>Total</b>					110

\* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\* An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

\*\*\* The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\*\*\* MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&K reserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-24-2014  
 Date of Receipt: 01-24-2014  
 Date of Report: 01-27-2014

**MoldSCORE™: Spore Trap Report**

**Outdoor Sample:** 21401001-1 TM14OUT

Fungi Identified	Outdoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					3	40
Bipolaris/Drechslera group					ND	< 13
Chaetomium					1	13
Cladosporium					59	3,100
Curvularia					ND	< 13
Nigrospora					1	13
Penicillium/Aspergillus types†					4	210
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores					2	110
Basidiospores					7	370
Rusts					1	13
Smuts, Periconia, Myxomycetes					6	80
<b>Total</b>						<b>4,000</b>

**Location:** 21401001-1 TM15

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					6	320
Curvularia					1	13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores					ND	< 13
Basidiospores					ND	< 13
Oidium					1	13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes					1	13
<b>Total</b>						<b>360</b>

MoldSCORE‡			Score
100	200	300	
			100
			100
			100
			103
			105
			100
			100
			100
			100
			100
			100
			105
			100
			101
<b>Final MoldSCORE</b>			<b>106</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-24-2014  
 Date of Receipt: 01-24-2014  
 Date of Report: 01-27-2014

**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM16

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					1	13				
Bipolaris/Drechslera group					ND	< 13				
Chaetomium					ND	< 13				
Cladosporium					2	110				
Curvularia					ND	< 13				
Epicoccum					1	13				
Nigrospora					ND	< 13				
Penicillium/Aspergillus types†					ND	< 13				
Stachybotrys					ND	< 13				
Torula					ND	< 13				
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				
Basidiospores					ND	< 13				
Oidium					1	13				
Rusts					ND	< 13				
Smuts, Periconia, Myxomycetes					1	13				
<b>Total</b>						<b>160</b>	<b>Final MoldSCORE 111</b>			

**Location:** 21401001-1 TM17

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				
Bipolaris/Drechslera group					ND	< 13				
Chaetomium					ND	< 13				
Cladosporium					ND	< 13				
Curvularia					ND	< 13				
Nigrospora					ND	< 13				
Penicillium/Aspergillus types†					ND	< 13				
Stachybotrys					ND	< 13				
Torula					ND	< 13				
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				
Basidiospores					ND	< 13				
Oidium					1	13				
Rusts					ND	< 13				
Smuts, Periconia, Myxomycetes					3	40				
<b>Total</b>						<b>53</b>	<b>Final MoldSCORE 108</b>			

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-24-2014  
 Date of Receipt: 01-24-2014  
 Date of Report: 01-27-2014

**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM18

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>N/A</b>				
							<b>Final MoldSCORE</b>			<b>100</b>

**Location:** 21401001-1 TM19

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium	█				2	110	█			102
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>107</b>				
							<b>Final MoldSCORE</b>			<b>102</b>

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21401001-1

Date of Sampling: 01-24-2014  
Date of Receipt: 01-24-2014  
Date of Report: 01-27-2014

### **MoldSCORE™: Spore Trap Report**

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

†The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.



Report for:

**Mr. Kenny Hsi, Mr. Larry Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21401001-1  
EML ID: 1165372

Approved by:

Technical Manager  
Melissa Tracey

Dates of Analysis:  
Spore trap analysis: 01-30-2014

Service SOPs: Spore trap analysis (1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21401001-1

Date of Sampling: 01-29-2014  
 Date of Receipt: 01-29-2014  
 Date of Report: 01-30-2014

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-1 TM20 OUT		21401001-1 TM21		21401001-1 TM22		21401001-1 TM23	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	5272704-1		5272705-1		5272706-1		5272707-1	
Analysis Date:	01/30/2014		01/30/2014		01/30/2014		01/30/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria								
Ascospores	4	210						
Basidiospores	5	270						
Chaetomium								
Cladosporium	9	480						
Epicoccum							1	13
Fusarium								
Myrothecium								
Nigrospora								
Oidium	6	80						
Other brown								
Other colorless								
Penicillium/Aspergillus types†	2	110						
Pithomyces								
Rusts	1	13						
Smuts, Periconia, Myxomycetes								
Stachybotrys	1	13						
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		1+		2+		2+	
Hyphal fragments/m3	27		13		< 13		< 13	
Pollen/m3	170		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		< 1+		1+		1+	
Sample volume (liters)	75		75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>1,200</b>		<b>&lt; 13</b>		<b>&lt; 13</b>		<b>13</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.  
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.  
 †† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.  
 ‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".  
 § Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.  
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 Re: 21401001-1

Date of Sampling: 01-29-2014  
 Date of Receipt: 01-29-2014  
 Date of Report: 01-30-2014

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21401001-1 TM24		21401001-1 TM25		21401001-1 TM26	
Comments (see below)	None		None		None	
Lab ID-Version‡:	5272708-1		5272709-1		5272710-1	
Analysis Date:	01/30/2014		01/30/2014		01/30/2014	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	13				
Ascospores						
Basidiospores						
Chaetomium						
Cladosporium	1	53	1	53		
Curvularia						
Epicoccum	1	13				
Fusarium						
Myrothecium						
Nigrospora						
Oidium						
Other brown			1	13		
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13	
Skin cells (1-4+)	1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>80</b>		<b>67</b>		<b>&lt; 13</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.  
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.  
 ††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.  
 ‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".  
 § Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21401001-1 TM20 OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: January in California† (n‡=15005)						Typical Outdoor Data for: The entire year in California† (n‡=199769)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	-	13	13	22	47	67	36	13	13	27	67	110	54
Bipolaris/Drechslera group	-	7	13	13	27	27	7	7	13	13	27	40	12
Chaetomium	-	7	13	13	27	40	10	8	13	13	27	47	19
Cladosporium	480	110	160	480	1,200	2,000	95	110	210	610	1,600	2,800	97
Curvularia	-	7	13	13	13	27	3	7	13	13	27	53	6
Epicoccum	-	7	13	13	27	53	13	8	13	13	33	53	19
Nigrospora	-	7	13	13	13	27	5	7	13	13	27	53	8
Other brown	-	13	13	13	33	53	30	13	13	13	40	53	34
Penicillium/Aspergillus types	110	53	110	230	620	1,000	85	53	100	210	590	1,000	84
Stachybotrys	13	10	13	13	40	93	3	7	13	13	33	67	4
Torula	-	10	13	13	40	53	5	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	210	27	53	160	560	1,100	69	25	53	110	360	690	71
Basidiospores	270	53	110	480	2,300	4,800	94	53	80	270	990	2,300	93
Oidium	80	13	13	13	40	53	9	13	13	13	44	75	19
Rusts	13	8	13	13	40	67	14	13	13	13	53	80	26
Smuts, Periconia, Myxomycetes	-	13	13	27	67	110	58	13	13	40	110	210	68
<b>§ TOTAL SPORES/m3</b>	<b>1,200</b>												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

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 Re: 21401001-1

Date of Sampling: 01-29-2014  
 Date of Receipt: 01-29-2014  
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**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Outdoor Summary: 21401001-1 TM20 OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Ascospores				210	13 - 210 - 5,700	76
Basidiospores				270	15 - 450 - 24,000	92
Cladosporium				480	27 - 480 - 10,000	90
Oidium				80	7 - 13 - 230	12
Penicillium/Aspergillus types				110	13 - 170 - 2,700	68
Rusts				13	7 - 20 - 360	20
Smuts, Periconia, Myxomycetes				< 13	7 - 53 - 930	64
Stachybotrys				13	7 - 13 - 550	3
<b>Total</b>				1,200		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

**Indoor Samples**

**Location: 21401001-1 TM21**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 5 Result: 5.1429 Critical value: 11.0705 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
None Detected		<100	1K	10K
				>100K
				< 13

**Location: 21401001-1 TM22**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 5 Result: 5.1429 Critical value: 11.0705 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
None Detected		<100	1K	10K
				>100K
				< 13

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**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Location:** 21401001-1 TM23

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 5 Result: 5.1429 Critical value: 11.0705 Inside Similar: Yes	Result: 0.0000	dF: 8 Result: 0.0060 Critical value: 0.6190 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Epicoccum					13
<b>Total</b>					13

**Location:** 21401001-1 TM24

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 6%	dF: 5 Result: 5.1429 Critical value: 11.0705 Inside Similar: Yes	Result: 0.2000	dF: 9 Result: 0.0583 Critical value: 0.5833 Outside Similar: No	Score: 110 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria					13
Cladosporium					53
Epicoccum					13
<b>Total</b>					80

**Location:** 21401001-1 TM25

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 5%	dF: 5 Result: 5.1429 Critical value: 11.0705 Inside Similar: Yes	Result: 0.2222	dF: 8 Result: 0.2976 Critical value: 0.6190 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Cladosporium					53
Other brown					13
<b>Total</b>					67

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**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Location:** 21401001-1 TM26

<b>% of outdoor total spores/m3</b>	<b>Friedman chi-square* (indoor variation)</b>	<b>Agreement ratio** (indoor/outdoor)</b>	<b>Spearman rank correlation*** (indoor/outdoor)</b>	<b>MoldSCORE**** (indoor/outdoor)</b>
Result: < 1%	dF: 5 Result: 5.1429 Critical value: 11.0705 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
<b>None Detected</b>				< 13

\* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\* An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

\*\*\* The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

\*\*\*\* MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&K reserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.



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**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM22

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>N/A</b>				<b>Final MoldSCORE 100</b>

**Location:** 21401001-1 TM23

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Epicoccum		█			1	13				105
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>13</b>				<b>Final MoldSCORE 105</b>

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**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM24

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria	█				1	13	█			105
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium	█				1	53	█			102
Curvularia					ND	< 13	█			100
Epicoccum	█				1	13	█			105
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>80</b>				<b>Final MoldSCORE 110</b>

**Location:** 21401001-1 TM25

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium	█				1	53	█			102
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Other brown	█				1	13	█			105
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>67</b>				<b>Final MoldSCORE 105</b>

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**MoldSCORE™: Spore Trap Report**

**Location:** 21401001-1 TM26

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>N/A</b>				<b>Final MoldSCORE 100</b>

\* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

\*\* These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

†The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.







